

CLAIMS

1. A method for forming a multilevel structure on a surface, the method comprising: depositing a curable liquid layer on the surface; pressing a stamp having a multilevel pattern therein
5 into the liquid layer to produce in the liquid layer a multilevel structure defined by the pattern; and, curing the liquid layer to produce a solid layer having the multilevel structure therein.
2. A method as claimed in claim 1, comprising, prior to the pressing, aligning the stamp relative to the surface via
10 complementary formations on the stamp and the surface.
3. A method as claimed in claim 2, wherein the aligning comprises lubricating movement of the stamp relative to the surface via the liquid layer.
4. A method as claimed in claim 3, wherein the complementary
15 formations comprise protrusions on one of the stamp and the surface and recesses for receiving the protrusions on the other of the stamp and the surface.
5. A method as claimed in claim 4, wherein the stamp is formed from an elastomeric material.
- 20 6. A method as claimed in claim 5, wherein the aligning comprises stretching the stamp.
7. A method as claimed in claim 6, wherein the protrusions are offset relative to the corresponding recesses to produce the deformation of the stamp.
- 25 8. A method as claimed in any of claims 1 to 4, wherein the stamp is formed from a rigid material.
9. A method as claimed in any preceding claim, wherein the solid layer is formed from a dielectric material and the

multilevel structure comprises a multilevel cavity in the solid layer.

10. A method as claimed in any of claims 1 to 8, wherein the solid layer is formed from a resist material, the multilevel
5 structure comprises a multilevel cavity in the solid layer, and the depositing comprises depositing the resist material in liquid form on a dielectric layer.

11. A method as claimed in claim 10, comprising etching the dielectric layer via the solid layer to transfer the cavity from
10 the solid layer to the dielectric layer.

12. A method as claimed in claim 9 or claim 11, comprising depositing metal in the cavity to produce a conductive structure embedded in dielectric material.

13. A method as claimed in claim 12, wherein the cavity
15 comprises a first level corresponding to a longitudinal element of the conductive structure and a second level corresponding to a lateral element of the conductive structure.

14. A method as claimed in claim 13, wherein the longitudinal element comprises a via for completing an electrical connection
20 between adjacent levels of a multilevel interconnection structure for an integrated circuit, and the lateral element comprises a wire for completing an electrical connection within one of the adjacent levels of the integrated circuit.

15. A method as claimed in any preceding claim, wherein the
25 curing comprises exposing the liquid layer to ultra violet light via the stamp.

16. A method for fabricating an integrated circuit having a multilevel interconnection structure, the method comprising, between at least one pair of adjacent levels of the

interconnection structure, forming an electrically conductive structure by performing a method as claimed in claim 14.